

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A black composition comprising as indispensable components a titanium nitride oxide, a resin and a solvent; wherein X-ray intensity ratios R₁ and R₂ represented by the Equations (1) and (2) below, respectively, satisfy the relationships represented by Formulae (3) and (4) below:

$$R_1 = I_3 / \{I_3 + 1.8(I_1 + 1.8I_2)\} \quad (1)$$

$$R_2 = I_2 / I_1 \quad (2)$$

$$R_1 > 0.70 \quad (3)$$

$$0.85 < R_2 < 1.80 \quad (4)$$

wherein I₁ represents the maximum diffraction intensity of the titanium nitride oxide when the angle of diffraction 2θ, determined by using CuKα line as the X-ray source, is 25° to 26°, I₂ represents the maximum diffraction intensity of the titanium nitride oxide when the angle of diffraction 2θ is 27° to 28°, I₃ represents the maximum diffraction intensity of the titanium nitride oxide when the angle of diffraction 2θ is 36° to 38°, and

wherein a black coating film obtained from said black composition has an optical density (OD value) of not less than 4.4 per 1 μm of film thickness, and wherein the minimum exposure energy required for photo-curing is not more than 60 mJ/cm².

2. (Original) The black composition according to claim 1, wherein said X-ray intensity ratio R₁ is not less than 0.80.

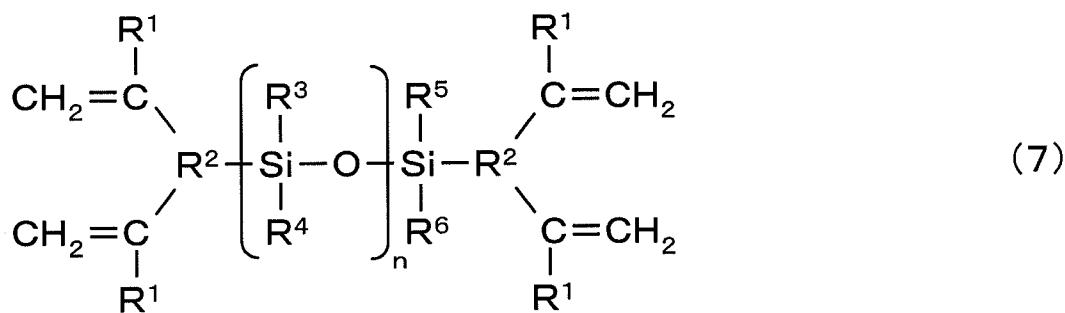
3. (Previously Presented) The black composition according to claim 1, wherein said solvent has a boiling point of 120°C to 180°C, and a viscosity of 3 mPa·s to 10 mPa·s.

4. (Previously Presented) The black composition according to claim 1, wherein said resin is at least one selected from the group consisting of an acrylic resin and a polyimide resin.

5. (Previously Presented) The black composition according to claim 1, further comprising an organosilane hydrolysis condensate.

6. (Previously Presented) The black composition according to claim 1, further comprising a compound having a siloxane bond and a carbon-carbon double bond in a single molecule and having no silanol group.

7. (Previously Presented) The black composition according to claim 6, wherein said compound having a siloxane bond and a carbon-carbon double bond in a single molecule and having no silanol group has the structure represented by the following Formula (7):



wherein each R¹ independently represents hydrogen or alkyl group; each R² independently represents an organic group containing amide bond, imide bond, ester bond or urethane bond; R³ to R⁶ independently represent alkyl group; and n represents an integer of 1 to 3.

8. (Previously Presented) The black composition according to claim 1, wherein the weight ratio of said titanium nitride oxide to said resin is within the range between 75/25 and 60/40.

9. (Previously Presented) The black composition according to claim 1, further comprising carbon black.

10. (Cancelled).

11. (Previously Presented) A black composition comprising as indispensable components a titanium nitride oxide and a resin; wherein X-ray intensity ratios R_1 and R_2 represented by the Equations (1) and (2) below, respectively, satisfy the relationships represented by Formulae (3) and (4) below:

$$R_1 = I_3 / \{I_3 + 1.8(I_1 + 1.8I_2)\} \quad (1)$$

$$R_2 = I_2 / I_1 \quad (2)$$

$$R_1 > 0.70 \quad (3)$$

$$0.85 < R_2 < 1.80 \quad (4)$$

wherein I_1 represents the maximum diffraction intensity of the titanium nitride oxide when the angle of diffraction 2θ , determined by using $\text{CuK}\alpha$ line as the X-ray source, is 25° to 26° , I_2 represents the maximum diffraction intensity of the titanium nitride oxide when the angle of diffraction 2θ is 27° to 28° , I_3 represents the maximum diffraction intensity of the titanium nitride oxide when the angle of diffraction 2θ is 36° to 38° ; and wherein the transmittance of X-ray when the optical density (OD value) is 2.0 is more than 0.2%.

12. (Original) The black coating composition according to claim 11, wherein said X-ray intensity ratio R_1 is not less than 0.80.

13. (Previously Presented) The black coating composition according to claim 11, wherein said resin is at least one selected from the group consisting of an acrylic resin and a polyimide resin.

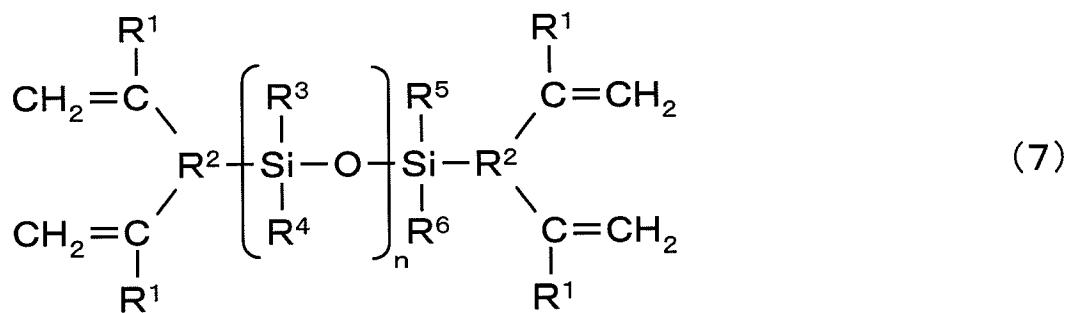
14. (Previously Presented) The black coating composition according to claim 11, wherein the weight ratio of said titanium nitride oxide to said resin is within the range between 75/25 and 60/40.

15. (Previously Presented) The black coating composition according to claim 11, which has an optical density (OD value) of not less than 4.4 per 1 μm of film thickness.

16. (Cancelled).

17. (Previously Presented) The black coating composition according to claim 11, further comprising a compound having a siloxane bond and a carbon-carbon double bond in a single molecule and having no silanol group.

18. (Previously Presented) The black coating composition according to claim 17, wherein said compound having a siloxane bond and a carbon-carbon double bond in a single molecule and having no silanol group has the structure represented by the following Formula (7):



wherein each R¹ independently represents hydrogen or alkyl group; each R² independently represents an organic group containing amide bond, imide bond, ester bond or urethane bond; R³ to R⁶ independently represent alkyl group; and n represents an integer of 1 to 3.

19. (Previously Presented) The black coating composition according to claim 11, further comprising carbon black.

20. (Previously Presented) A resin black matrix obtained from said black coating composition according to claim 11.

21. (Original) A color filter for liquid crystal displays, which color filter comprises said resin black matrix according to claim 20.

22. (Original) A liquid crystal display comprising said color filter for liquid crystal displays, according to claim 21.

23. (Previously Presented) A resin black matrix obtained by exposing and developing a black coating film obtained by coating said black composition according to claim 1 on a substrate.

24. (Previously Presented) A color filter for liquid crystal displays, which color filter comprises said resin black matrix according to claim 23.

25. (Previously Presented) A liquid crystal display comprising said color filter for liquid crystal displays, according to claim 24.

26. (New) The black composition according to claim 1, further comprising a photopolymerizable monomer and a photoinitiator.